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Sheet

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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of

Application Number	09/848,966	- TOENED
Filing Date	May 4, 2001	RECEIVEL
First Named Inventor	Richard L. Cunningham, et al.	
Group Art Unit	2672	NOV 0 5 2002
Examiner Name	Unassigned	100
Attorney Docket Number	IMMR-028/00US	Technology Center 2

Complete if Known

Examiner Initials*			cument		Date of Publication of Cit	
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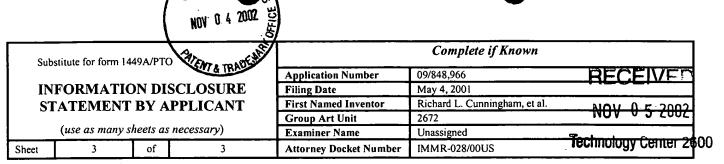
INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 2

Complete if Known				
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Technology Center 2600 OTHER PRIOR ART – NON PATENT LITERATURE DOCUMENTS Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, Examiner Cite Initials* No.1 magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published. C₁ Baigrie, "Electric Control Loading - A Low Cost, High Performance Alternative," Proceedings of Interservice/Industry Training Systems Conference, pp. 247-254, November 6-8, 1990 Iwata, "Pen-based Haptic Virtual Environment," 0-7803-1363-1/93 IEEE, pp. 287-292, 1993 C2 Russo, "The Design and Implementation of a Three Degree of Freedom Force Output Joystick," MIT Libraries Archives **C3** pp. 1-131, May 1990, archived 8/14/90 C4 Brooks et al., "Hand Controllers for Teleoperation - A State-of-the-Art Technology Survey and Evaluation," JPL Publication 85-11, NASA-CR-175890; N85-28559, pp. 1-84, 03/1/1985 Jones et al., "A perceptual analysis of stiffness," ISSN 0014-4819 Springer International (Springer-Verlag); Experimental **C5** Brain Research, Vol. 79, No. 1, pp. 150-156, 1990 C6 Burdea et al., "Distributed Virtual Force Feedback, Lecture Notes for Workshop on Force Display in Virtual Environments and its Application to Robotic Teleoperation," 1993 IEEE International Conference on Robotics and Automation, pp. 25-44, 05/02/1993 Snow et al., 'Model-X Force-Reflecting-Hand-Controller," NT Control No. NPO-17851; JPL Case No. 7348, pp. 1-4 with **C7** 45 pages of attachments, 06/15/1989 Ouh-Young, "Force Display in Molecular Docking," Doctoral Dissertation, University of North Carolina at Chapel Hill, **C8** UMI Order No. 9034744, p. 1-369, 1990 Tadros, "Control System Design for a Three Degree of Freedom Virtual Environment Simulator Using Motor/Brake Pair C9 Actuators," MIT Archive, pp. 1-88, February 1990, archived 8/13/90 Caldwell et al., "Enhanced Tactile Feedback (Tele-Taction) Using a Multi-Functional Sensory System," 1050-4729/93, pp. 955-960, 1993 C11 Adelstein et al., "Design and Implementation of a Force Reflecting Manipulandum for Manual Control research," DSC-Vol. 42, Advances in Robotics, pp. 1-12, 1992 C12 Gotow et al., "Controlled Impedance Test Apparatus for Studying Human Interpretation of Kinesthetic Feedback," WA11-11:00, pp. 332-337 Stanley et al., "Computer Simulation of Interacting Dynamic Mechanical Systems Using Distributed Memory Parallel C13 Processors," DSC-Vol. 42, Advances in Robotics, pp. 55-61, ASME 1992 Russo, "Controlling Dissipative Magnetic Particle Brakes in Force Reflective Devices," DSC-Vol. 42, Advances in C14 Robotics, pp. 63-70, ASME 1992 Kontarinis et al., "Display of High-Frequency Tactile Information to Teleoperators," Telemanipulator Technology and C15 Space Telerobotics, Won S. Kim, Editor, Proc. SPIE Vol. 2057, pp. 40-50, Sep. 7-9, 1993 Patrick et al., "Design and Testing of A Non-reactive, Fingertip, Tactile Display for Interaction with Remote Environments," Cooperative Intelligent Robotics in Space, Rui J. deFigueiredo et al, Editor, Proc. SPIE Vol. 1387, pp. 215-222, 1990 Adelstein, "A Virtual Environment System For The Study of Human Arm Tremor," Ph.D. Dissertation, Dept. of C17 Mechanical Engineering, MIT, June 1989, archived 3/13/90 Bejczy, "Sensors, Controls, and Man-Machine Interface for Advanced Teleoperation," Science, Vol. 208, No. 4450, pp. C18 1327-1335, 1980 Bejczy et al., "Generalization of Bilateral Force-Reflecting Control of Manipulators," Proceedings Of Fourth CISM-C19 IFToMM, Sep. 8-12, 1981 McAffee et al., "Teleoperator Subsystem/Telerobot Demonstrator: Force Reflecting Hand Controller Equipment Manual," JPL 1988, JPL D-5172 C20 Minsky, "Computational Haptics: The Sandpaper System for Synthesizing Texture for a Force-Feedback Display," Ph.D. C21 Dissertation, MIT, June 1995, archived 7/6/95 C22 Jacobsen et al., "High Performance, Dextrous Telerobotic Manipulator With Force Reflection," Intervention/ROV '91 Conference & Exposition, Hollywood, Florida, May 21-23, 1991 Shimoga, "Finger Force and Touch Feedback Issues in Dexterous Telemanipulation," Proceedings of Fourth Annual C23 Conference on Intelligent Robotic Systems for Space Exploration, Rensselaer Polytechnic Institute, Sep. 30- Oct. 1, 1992 IBM Technical Disclosure Bulletin, "Mouse Ball-Actuating Device With Force and Tactile Feedback," Vol. 32, No. 9B, C24 C25 Terry et al., "Tactile Feedback In A Computer Mouse," Proceedings of Fourteenth Annual Northeast Bioengineering Conference, University of New Hampshire, March 10-11, 1988 C26 Howe, "A Force-Reflecting Teleoperated Hand System for the Study of Tactile Sensing in Precision Manipulation," Proceedings of the 1992 IEEE International Conference on Robotics and Automation, Nice, France, May 1992 C27 Eberhardt et al., "OMAR - A Haptic display for speech perception by deaf and deaf-blind individuals," IEEE Virtual Reality Annual International Symposium, Seattle, WA, Sep. 18-22, 1993



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